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ABSTRACT

To investigate relationships among reading scores, college academic performance, degree expectations, self-assessed skills, and retention, data from "The Nelson-Denny Reading Test" and background information from "The New Student Survey" were correlated with the freshman year academic performance and enrollment status at the beginning of the junior year of 490 students. Comparisons of correlations by academic fields of study revealed differences in predictive strength of the variables. The data indicated students' self-assessed skills were significantly related to actual reading scores, and that academic performance and retention could be predicted with moderate reliability using the Nelson-Denny Reading Test scores and students' self-assessed degree of preparation, and their degree expectations. (Author/TJ)

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Reading Ability, College Grades, and Attrition:
A Two-Year Study

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The prospect of offsetting the slowed or zero growth rates in higher education by increasing the number of students who stay in school after they do enroll, points to a need to have a better understanding of the processes involved in the attrition of students. Mulka and Sheerin (1974) pointed to a lack of basic skills as a critical barrier for successfully achieving the benefits of higher education. Astin (1975) posited that GPA was more closely related to persistence than other variables. Astin (1964) also stated that the entering freshman, who is not planning to take graduate or professional work beyond the bachelor's degree is more likely to leave college.

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The purpose of the present study was to investigate the relationships among: (1) reading scores, (2) college academic performance, (3) degree expectations, (4) self-assessed skills, and (5) retention. The study specifically examined the predictive value of these variables by academic area groupings and their relationship to first year grade point average (GPA) and enrollment status for the fifth semester. Also investigated was the correlation between actual reading scores, self-assessed reading ability, and degree expectations.

Method

Subjects

The sample consisted of 490 students who were first semester freshmen at The University of Oklahoma during the 1976-77 fall semester. A purposeful, non-random sampling procedure was employed to select the 28 day and evening Freshman English classes in the sample, which represented 15 percent of the 2,551 entering freshmen for that year.

Instruments

Two instruments were used. The New Student Survey was designed to obtain data related to the students' family background, academic background, interests, needs, and attitudes.

The Nelson-Denny Reading Test, form C, was used to determine reading achievement. This test is designed to measure reading vocabulary, reading

comprehension and reading rate. In addition, the norms provide for a total reading score which is based on a composite of vocabulary and comprehension.

Procedure

The New Student Survey was administered to all incoming freshmen during registration. At the beginning of the fall semester, the 490 students in the sample were administered The Nelson-Denny Reading Test, form C.

Step-wise multiple regression analyses were performed to determine the predictive strength of the nine independent variables for first year GPA and fifth semester enrollment in each of the academic major areas. Intercorrelations were computed among the two dependent variables and the nine independent variables for each of the academic major areas.

Results

The results of the multiple regression analysis and the Pearson r correlations for first year GPA are presented in Table 1.

Insert Table 1 about here

The results indicate that the independent variables accounted for a range of 24 to 82 percent of the variance with different variances found in each of the academic major areas. The computation of Pearson r correlations

between first year GPA and each of the other variables resulted in statistically significant correlations in 28 cases.

The results of the multiple regression analysis for fifth semester enrollment and the Pearson r correlations are presented in Table 2. A range of .06 to .92

Insert Table 2 about here

multiple correlations were found for the various academic major areas for predicting fifth semester enrollment. The Pearson r correlations between fifth semester enrollment and each of the independent variables range from .01 to .51.

Significant correlations were found between Nelson-Denny reading scores and self-assessed skills. The data shows significant relationships between Nelson-Denny reading scores, self-assessed skills, and degree expectations (Table 3).

Insert Table 3 about here

Discussion

Results indicate that academic accomplishment and retention in most academic major areas can be assessed with moderate reliability using The Nelson-Denny Reading Test, students' own self-reported degree of preparation,

and degree expectations. The independent variables showed a higher predictive value for freshman year academic performance than for fifth semester enrollment status. A possible explanation for these differences may be found as the study follows the students for two more years. A number of students with a 2.0 grade average, or below, were still enrolled at the beginning of the junior year. Very likely these students will not persist to graduation.

Results support other research findings indicating that students are aware of their reading abilities and deficiencies. Possibly self-assessed skills, as reported by a survey of all entering freshman, could be used for identifying reading problems when reading test scores are not available.

Table 1

Pearson and Multiple Correlations for Predicting Freshman Year Grade Point Average

Academic Major Area	N	Nelson-Denny		Self Assessed Skills							
		Voc.	Comp.	Total Read.	WPM	Writing Compositions	Writing Research Papers	Read.	Vocab.	Degree Expect.	Multiple
		<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>R</u>
Fine Arts	24	.54**	.27	.50*	.09	.32	.20	.33	.10	.39	.43
Health Prof.	19	.24	.09	.17	.20	.14	.30	.01	.28	.17	.59
Natural Sc.	23	.01	.29	.13	.18	.33	.04	.20	.13	.30	.54
Communica- tions-Journ.	38	.45**	.21	.39*	.03	.18	.15	.08	.19	.01	.43
Social Sci.	35	.27	.31	.33*	.32*	.43**	.32*	.18	.33*	.29	.30
Education	37	.45**	.41**	.49**	.04	.03	.14	.43**	.19	.06	.48
Engineering	57	.50***	.41***	.50***	.08	.03	.14	.07	.06	.07	.39
Business	133	.40***	.41***	.44***	.15	.25**	.16	.21*	.17	.22*	.24
Phy. Sci.	19	.56*	.44	.61**	.21	.21	.28	.26	.17	.03	.82
No Major	68	.35**	.20	.28*	.23*	.04	.17	.04	.23*	.04	.33

* $p < .05$.** $p < .01$.*** $p < .001$.

Table 2

Pearson and Multiple Correlations for Predicting Fifth Semester Enrollment

Academic Major Area	N	Nelson-Denney				Self Assessed Skills					
		Voc.	Comp.	Total Read.	WPM	Writing Compositions	Writing Research Papers	Read.	Vocab.	Degree Expect.	Multiple
		$\bar{r}$	$\bar{r}$	$\bar{r}$	$\bar{r}$	$\bar{r}$	$\bar{r}$	$\bar{r}$	$\bar{r}$	$\bar{r}$	R
Fine Arts	24	.22	.11	.20	.28	.44*	.14	.51*	.09	.35	.50
Health Prof.	19	.05	.11	.07	.13	.04	.31	.15	.14	.08	.21
Natural Sc.	28	.03	.08	.02	.44*	.15	.07	.14	.16	.10	.45
Communica- tions-Journ.	38	.07	.03	.04	.05	.02	.38*	.23	.17	.23	.23
Social Sci.	35	.07	.22	.04	.13	.07	.15	.11	.25	.08	.36
Education	37	.23	.31	.30	.04	.48**	.51***	.46**	.21	.20	.55
Engineering	57	.19	.13	.16	.05	.17	.31*	.14	.23	.13	.17
Business	133	.13	.16	.15	.06	.07	.09	.02	.03	.08	.06
Phy. Sci.	19	.05	.03	.02	.08	.51*	.04	.21	.42	.44	.92
No Major	68	.03	.06	.01	.18	.03	.12	.09	.03	.18	.08

* $p < .05$.** $p < .01$.*** $p < .001$.

Table 3

Correlation Between Self-Assessed Skills, Degree Expectations with Nelson-Denny Total Reading Score

Academic Major Area	N	Self-Assessed Skills				Degree Expectation
		Writing Compositions	Writing Research Papers	Reading	Vocabulary	
		<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>
Fine Arts	24	.56**	.09	.64**	.59**	.31
Health Professions	19	.19	.04	.37	.26	.07
Natural Science	28	.34	.10	.30	.16	.11
Communications	38	.33*	.05	.39*	.35*	.06
Social Sciences	35	.48**	.30	.28	.53***	.02
Education	37	.39*	.23	.46**	.31	.06
Engineering	57	.10	.03	.37**	.06	.43***
No Major	67	.32**	.25*	.53***	.68***	.19
Business	133	.25**	.15	.46***	.38***	.22*
Physical Sciences	19	.08	.11	.05	.20	.10

* $p < .05$.** $p < .01$.*** $p < .001$.

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Abstract

Data from The Nelson-Denny Reading Test and background information from The New Student Survey were correlated with freshman year academic performance and enrollment status at the beginning of the junior year. The 490 first-semester students selected for the study were enrolled in day and night Freshman English classes. Comparisons of correlations by academic fields of study revealed differences in predictive strength of the variables. The data indicates students' self-assessed skills are significantly related to actual reading scores. Academic performance and retention can be predicted with moderate reliability using the Nelson-Denny Reading Test scores and student self-assessed skills.